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# *CONICOBRUCHUS ALBOPUBENS* (PIC) (COLEOPTERA: BRUCHIDAE) AND ITS HOST *CYAMOPSIS TETRAGONOLOBA* (L.) (LEGUMINOSAE), WITH THE DESIGNATION OF A LECTOTYPE

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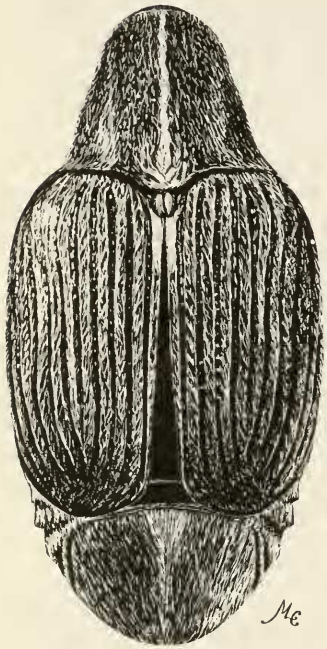
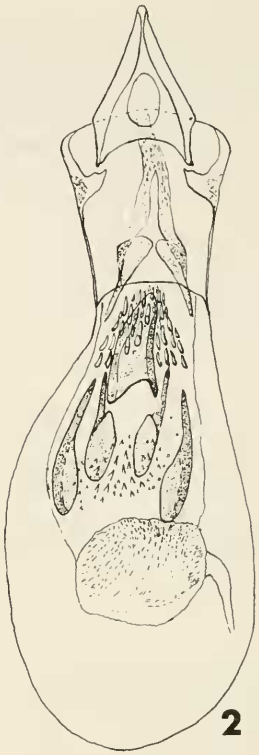
*Abstract.*—*Conicobruchus albopubens* attacks seeds of Guar (*Cyamopsis tetragonoloba*) in India and Pakistan but has not yet been found in the guar-growing areas of south central United States. To facilitate identification, illustrations of salient characters are provided. The lectotype of *albopubens* is selected.

Guar (*Cyamopsis tetragonoloba* (L.), also known as *C. psoraloides* DC.) is widely grown in northern India and Pakistan. The legume fruits are used as a vegetable, the foliage is fed to cattle, and fruits and foliage have medicinal value. Growing plants provide shade for ginger plants, and foliage is used as green manure and as a cover crop. In recent years, this plant has been successfully grown in southwestern Oklahoma and north central Texas but in fairly small acreages (50,000 acres in 1978). The seed produced from U.S. cultivation and from more than 40,000 metric tons imported into the U.S. from India and Pakistan is used in paper manufacturing, as a thickener and binder in various processed foods and in cosmetics, and in a number of other applications (Whistler and Hymowitz, 1979). Small acreages of guar are also grown in Australia, Brazil, and South Africa.

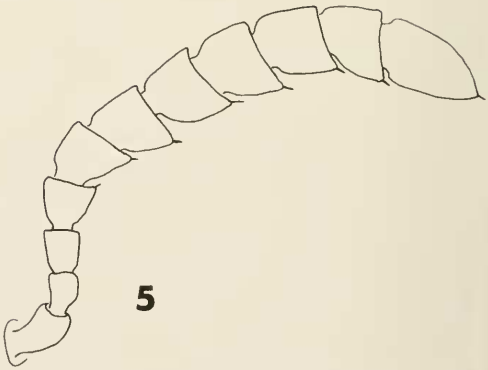
On the Indian subcontinent, seeds of guar are attacked by the bruchid *Conicobruchus albopubens* (Pic). Arora (1977) listed this plant (as *Cyamopsis psoraloides*) as the only host of *C. albopubens*, and most of the specimens in the National Museum of Natural History (USNM) are labeled with this host. One series of specimens from Coimbatore, S. India, however, was reared from indigo seeds (*Indigofera* prob. *tinctoria* L.). *Indigofera* is closely related to *Cyamopsis*.

S. R. Wadhi, National Bureau of Plant Genetic Resources, New Delhi, recently sent to me for confirmation specimens of *C. albopubens* that his






Figs. 1–5. *Conicobruchus albopubens*. 1, Habitus, dorsal. 2, ♂ genitalia, median lobe. 3, ♂ genitalia, lateral lobes. 4, Pygidium. 5, Antenna, ♂.

laboratory had identified using Arora's key to species (1977). They are identical to specimens sent to the USNM by Arora. Because this bruchid was described from the Sudan, I requested the loan of type-material from the British Museum, and R. D. Pope kindly sent two cotypes. In all details including those in the male genitalia, the specimens from India and the type-specimens are identical.

Although the geographical origin of *C. tetragonoloba* is obscure, Whistler and Hymowitz (1979) suggest that the cultivar may have developed from fodder supplies of *C. senegalensis* Guill. and Perrin brought into India by Arabs for their horses during the eighth century. This theory, if correct, could explain the Sudan-India distribution of the beetle, assuming that it remained constant throughout the changes in the host plant from *C. senegalensis* to its present cultivar *C. tetragonoloba*. Only one species of *Cyamopsis* (*C. senegalensis*) is known from Sudan and Senegal (Brown and Massey, 1929), but there is no evidence that the type-specimens of *Conicobruchus albopubens* were associated with this plant in the Sudan.

The following short redescription of *C. albopubens* is given for convenience although Pic's description (1931) is unusually informative and Arora's redescription (1977) is definitive despite the poorly reproduced habitus drawings (Figs. IXA, IXB).

***Conicobruchus albopubens* (Pic)**
Figs. 1–5

*Bruchus albopubens* Pic, 1931: 26.
*Conicobruchus albopubens*: Arora, 1977: 34.

Description.—Body length, 2.0–2.5 mm; body width, 1.0–1.3 mm. Integument black except pro- and mesolegs and 3 proximal antennal segments red to reddish yellow. Vestiture of densely placed, pure white slender setae more or less evenly distributed over body except narrow white stripe in middle of pronotum and middle of pygidium (Figs. 1 and 3); antenna slender, serrate, longer in male than in female (Fig. 5); body shape as in Fig. 1; metafemur without subapical ventral armature; male genitalia (Fig. 3) with median lobe short, ventral valve acutely triangular, armature of internal sac as shown (Fig. 2). (See also Arora, 1977, figs. 17 and 18.)

Type.—Lectotype ♂, with labels R. F. Medani, H. W. Bedford 173-25, Cotton, Sudan Govt., Ent. Coll. C8065, *Bruchus albopubens* n. sp. (in Pic's handwriting), red circular type label. This specimen is hereby designated and labeled as LECTOTYPE. In British Museum (Natural History), London.

Discussion.—Although *Conicobruchus albopubens* is not known from the United States, it remains a potential threat to the guar industry in this coun-

try, especially if seed stocks for breeding purposes were to be imported from the Indian subcontinent. Imported industrial guar is in the form of broken or split seeds, and this rules out almost completely the importation of live immature or adult beetles.

*Conicobruchus albopubens* seems out of place among the other much larger species of Indian *Conicobruchus* but appears to be more closely related to unidentified African species in the USNM collection. A thorough taxonomic study of this Old World tropical genus would be necessary to more clearly determine its relationships. Vats (1979) described the larva of *C. albopubens*.

## Acknowledgments

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